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ABSTRACTS

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FOOD AND NUTRIENT INTAKE AMONG ADOLESCENT GIRLS IN IRAN, 2000-2001

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Objective: Rapid changes in lifestyle and industrialization of communities have important effect on food intake pattern of society. Regarding the lack of enough data about the nutritional status of adolescents in our society, this study was performed in 2000-2001 in a group of adolescent girls in Lahijan, Iran.

Materials and Methods: This cross-sectional study was carried out on 400 high school girls aged 14-17 years. The students have been selected by random stratified sampling. Nutritional data were collected by 24-hour dietary recall, food habits and food frequency questionnaires for all samples.

Results: The mean energy intake was 2338 ± 611 kcal/d. The contributions of carbohydrate, protein and fat to the total energy intake were 59.3, 11.9 and 28.8 %, respectively. Most of the fat ingested was saturated. The daily intake of energy obtained from breakfast, lunch, dinner and snacks were 16.3, 23.5, 25.9 and 34.3 %, respectively. The mean intakes of vitamin A, vitamin D, calcium, phosphorus and zinc were below the Recommended Daily Allowances. According to the FFQ, cereals, milk or milk products, fruit and vegetables, fat or oils and something from the group meat/ fish/ eggs were consumed every day by most of the adolescents. A significant positive correlation was found between consumption frequencies of fried and fast foods with BMI (respectively: $r = 0.24, p < 0.0001$ and $r = 0.19, p < 0.0001$).

Conclusions: Regarding the undesirable food pattern and proportions of nutrient intakes, it is necessary to carry out more researches about the food and nutrient intake of adolescents in developing countries. It is important to develop means of motivating adolescents to eat nutritionally rich food, good for health and well-being. The message should be directed not only to the adolescents themselves and their parents, but also to the school authorities, school health services and fast food restaurants.

ASSESSING U.S. SCHOOL MEALS WITHIN THE CONTEXT OF THE BROADER SCHOOL ENVIRONMENT

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In the early 1990s, USDA's Food and Nutrition Service (FNS) completed its first national data collection on the nutritional quality of federally reimbursed school meals and their contribution to students' dietary intakes.

Results revealed that meals were inconsistent with important recommended dietary standards. Although students met the relevant Recommended Dietary Allowances for vitamins and minerals, the percent of calories from total fat and saturated fat exceeded the established targets.

Since then, FNS sought to improve meal quality through updated nutrition standards and changes in menu planning to facilitate meeting them. USDA supported implementation of these standards through Team Nutrition. This initiative provided enhanced training and technical assistance for school food service staff, nutrition education for students, and nutritional improvements in the commodity foods offered to schools.

A second study, completed in 1999, found that while most schools offered more healthful choices than before, many students continued to select less nutritious meals. This pattern suggests the need for additional nutrition promotion and other changes.

At the same time, policy makers grew increasingly concerned with the availability of less healthful foods in schools that compete with program meals. FNS has pursued several initiatives to promote healthier school nutrition environments through voluntary, community-level changes.

To inform these efforts, FNS expanded its research to examine all foods available in schools. The third assessment of school meals and dietary intake, planned for 2004-2005, will examine the influ-

ence of competitive foods from vending machines, snack bars and a la carte sales.

USDA's experience with a national, ongoing school meals monitoring system offers important lessons about the:

- role of periodic assessment for policy planning, and
- challenges of implementing a strong monitoring system.

DIETARY MANAGEMENT OF SEVERE PROTEIN ENERGY MALNUTRITION

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Objectives: To test the efficacy of a dietary formula for management of severe PEM in a hospital setting with follow up.

Method: The study was carried out at Bab El Shareya Hospital, Cairo, on 50 infants and children 4-36 months of age from urban low socioeconomic background. All had weight for length <75% of reference median and 16 were oedematous. The formula was a mixture of 100ml full fat yoghurt, 50g sucrose and 20g (22 ml) corn oil. The formula was blended electrically to be in a fluid state. It supplied 107 Kcal/100 ml derived from: 3.5g protein (13%), 12.3g carbohydrate (49.2%), 4.9g fat (44.1%). Formula was given 100 ml/kg/24hr by NGT divided into 8-12 feeds. All received multivitamin and mineral supplements and a broad spectrum antibiotic. Oral rehydration solution was given for those with diarrhoea (n=28) and feeding started after 6 hours of rehydration.

Results: After 7 days, 46 cases (92%) increased in weight by >5% while 4(8%) increased by <5%. All were receiving feeding without NGT. None developed dehydrating diarrhoea. Patients were discharged with proper dietary advice. Weight gain was maintained during 2 weeks of follow up but one died from pneumonia. After 5 weeks only 15(30%) children were seen and were gaining weight and none developed dehydrating diarrhoea or significant fever.

Conclusion: the present formula is suitable and practical for dietary management of severe PEM. In addition, its ingredients are available and inexpensive. Therefore, it is recommended for dietary management of severe PEM in a hospital setting. Development of diarrhoea necessitates the use of low lactose or lactose free formula, the study formula is potentially useful for less severe forms of PEM for home use by mothers after proper instructions.

EFFECT OF DIETS OF DIFFERENT CALORIC VALUES ON THE RECOVERY OF MARASMIC CHILDREN

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The effect of diets of different caloric values on the recovery of marasmic children was studied for 3 weeks in Pakistan. Sixty marasmic children of less than 5 years age were grouped into 4; each group was having 15 children. For each group, two diets, one for early recovery and the other for catch up growth, were prepared from fresh buffalo milk, banana, soybean oil and glucose. The basal (reference) and test diets for early recovery and catch up growth were having constant protein and variable amount of calories. The basal diets and test diets for early recovery and catch up growth were assigned to group 1, 2, 3 and 4 respectively. The early recovery diets were fed for the first 5 days and the catch up growth diets were fed for the remaining period. The recovery of the children was measured in terms of weight gain and weight was taken weekly. The combined average intake/day of the diets were calculated. The average protein intake of groups 1, 2, 3 and 4 were 2.4 ± 0.6 , 2.1 ± 0.4 , 2.3 ± 1.0 and 2.6 ± 1.0 g/Kg body weight/day respectively. The average caloric intake of groups 1, 2, 3 and 4 were 128 ± 32 , 129 ± 30 , 153 ± 63 and 185 ± 71 Kcal/Kg body weight/day respectively. Children of all the groups gained weight but groups of test diets gained more weight than the group of basal diet. Group 3 of test diet gained significantly ($p < 0.05$) more weight than group 1 of basal diet. The data revealed that the diet that provided 2.3 ± 1.0 g protein and 153 ± 63 Kcal/Kg body weight/day was better for the recovery of marasmic children.